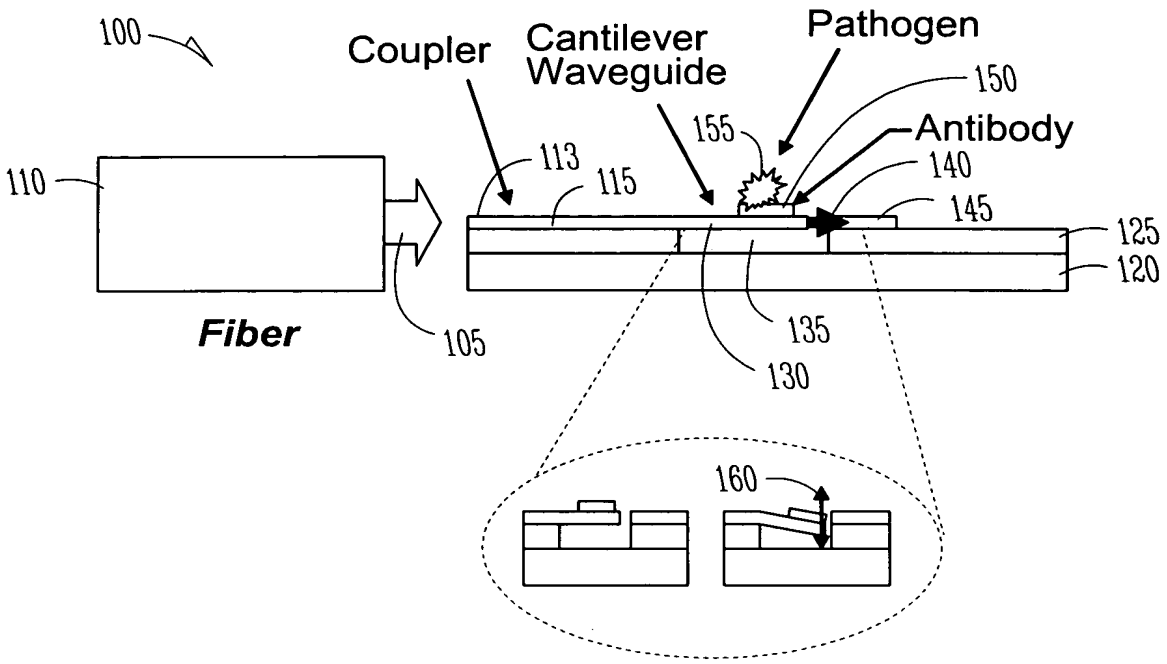

100
Coupler
Cantilever Waveguide
Pathogen
150
155
Antibody
140
145
110
113
115
125
120
Fiber
105
135
130
160

Fig. 1

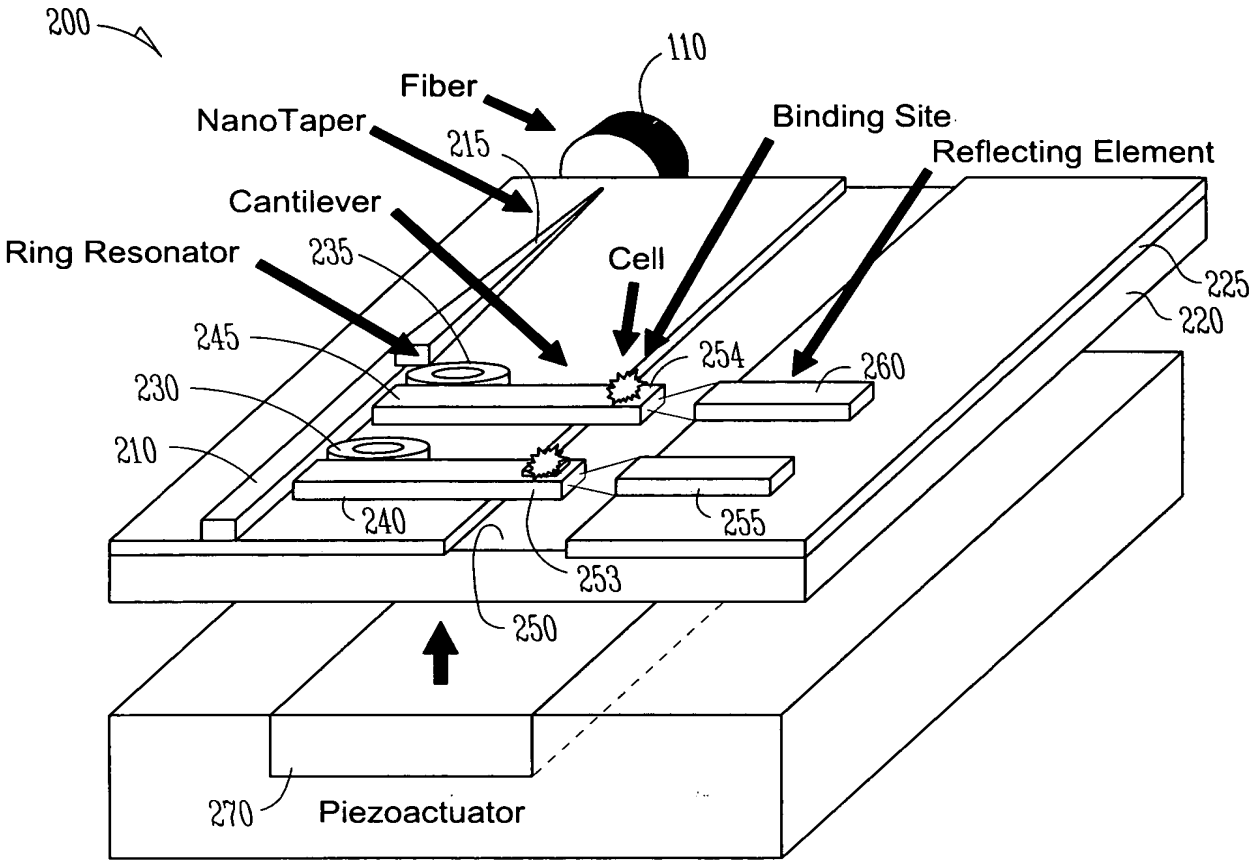

200
110
Fiber
NanoTaper
215
Binding Site
Reflecting Element
Cantilever
Ring Resonator
235
Cell
225
220
245
254
260
230
210
240
255
253
250
270
Piezoactuator

Fig. 2

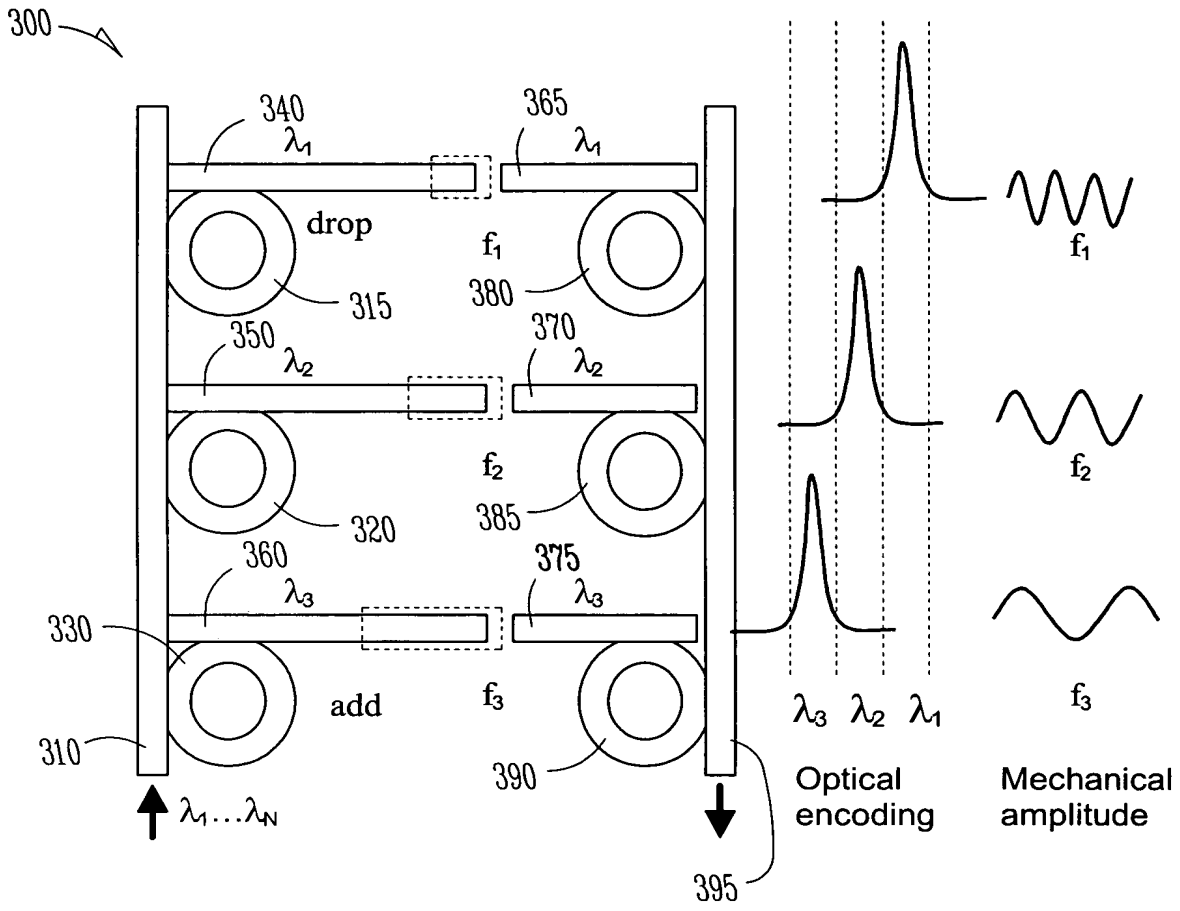

300
340
λ_1
365
λ_1
drop
f_1
315
380
350
λ_2
370
λ_2
f_2
320
385
360
λ_3
375
λ_3
330
add
f_3
310
390
$\lambda_1 \ldots \lambda_N$
395
λ_3 λ_2 λ_1
Optical encoding
f_1
f_2
f_3
Mechanical amplitude

Fig. 3

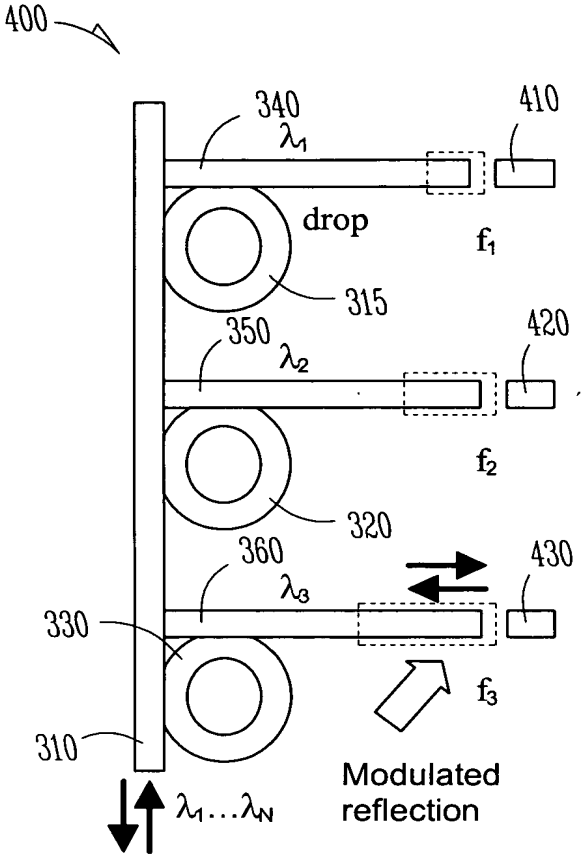

400
340
λ_1
410
drop
f_1
315
350
λ_2
420
f_2
320
360
λ_3
430
330
f_3
310
Modulated
reflection
$\lambda_1 \ldots \lambda_N$

Fig. 4

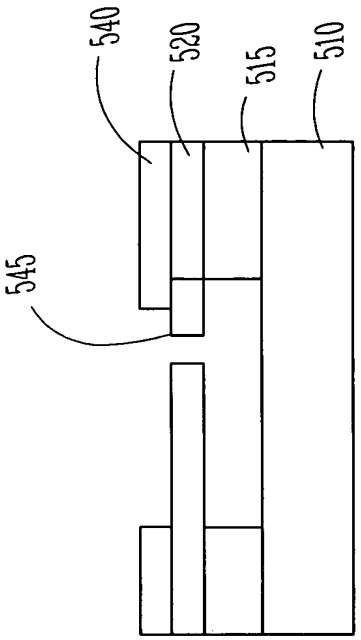


Fig. 5C

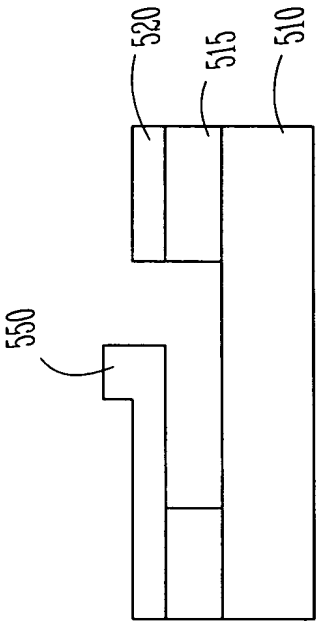


Fig. 5D

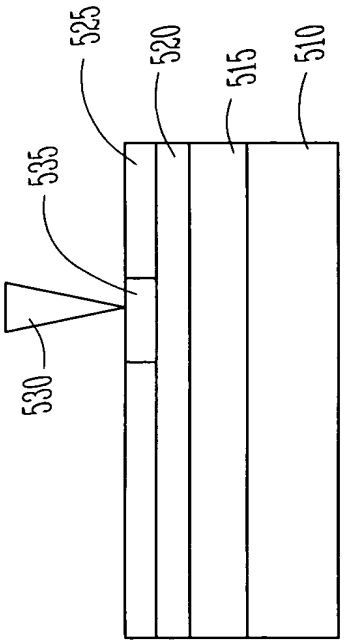


Fig. 5A

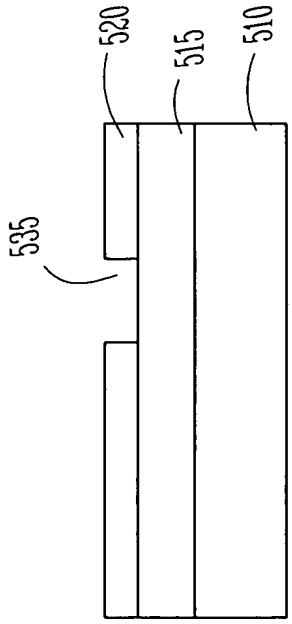


Fig. 5B